$$\left.\begin{aligned} X_v[n] &= \sum_{k=0}^{n-1} e^{-aT(n-k-1)} U_1[k], \\ X_e[n] &= \int_{-\infty}^{+\infty} Z_e(\omega)\, \Phi[\Omega, n]\, d\omega. \end{aligned}\right\} \qquad (37)$$

The term $X_v[n]$ is contributed by the signal. $X_e(n)$ is the system response to the noises. For steady-state conditions, the function Φ has the form

$$\Phi[\Omega, n] = e^{i\Omega Tn}\left(\frac{1}{e^{i\Omega T} - e^{-aT}}\right) R(\Omega). \qquad (38)$$

As regards the correlation function for the output signal of the principal system, it is stated that if the functions f_1 and E_1 ar assumed as statistically independent, then the correlation functi is

$$K[n, n'] = K_v[n, n'] + K_e[n, n'] \qquad (41)$$

where $$K_v[n, n'] = //K^v_{jk}[n, n']//(r \times r) \qquad (42)$$

Card 6/8

Some problems in the theory of ...

is the correlation matrix corresponding to the signal, and

$$K_e[n, n'] = //K^e_{jk}[n, n']//(r \times r) \qquad (43)$$

-- the matrix corresponding to the noise. By the same method one obtains for the correlation function of the first subsystem:

$$Y[n] = e^{-bnT} Y(0) + \int_{-\infty}^{+\infty} Z_e(\omega)\, \Phi_y[\Omega, n]d\omega \qquad (45)$$

$$(n = 0, 1, 2, \ldots),$$

further, a system is described for determining the statistical characteristics of the signal and noise. The system contains an element for computing the mathematical expectation of $X[n]$, a difference element (for the difference between the random functions $X[n]$ and $X_{vo}[n]$), and two correlators. The system yields the correlation functions of the signal- and noise, separately; this can also be effected by correlation filters (in some cases). Conclusions: Signal and noise can be separately analyzed. By increasing the number of subsystems, the possibilities for analysis can be increa-

Card 7/8

Some problems in the theory of ...

sed. There are 5 figures and 14 references: 12 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: Chance, Hughes, MacNichol, Sayre, Williams, Waveforms. McGraw Hill Book Co., Inc., New York-Toronto-London, 1949; Chance, Hulsizer, MacNichol, Williams. Electronic time measurements, McGraw Hill Book Co., Inc., New York-Toronto-London, 1949.

Card 8/8

KILIN, F.M. (Leningrad)

Passage of random signals through a time discriminator and an integrating amplifier. Part 1. Construction of a recurrent relationship for the determination of coordinate lattice functions characterizing random processes in a pulse system. Avtom. i telem. 22 no.9:1151-1162 S '61. (MIRA 14:9)
(Pulse techniques (Electronics))
(Automatic control)

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S/103/62/023/001/002/014
D201/D304

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AUTHOR: Kilin, F.M. (Leningrad)

TITLE: Passing of random signals through a time discriminator and an integrating amplifier. II.Correlation functions and spectral densities of sampled data system output signals

PERIODICAL: Avtomatika i telemekhanika, v. 23, no. 1, 1962, 25-33

TEXT: As the continuation of an earlier work (Ref. 1: Avtomatika i telemekhanika, v. 22, no. 9, 1961) the author gives a procedure of determining the coordinate lattice function $\Phi[n]$ for the case when the change in θ_n, characterizing the time position of sampling pulses with respect ot the corresponding reference pulses is given by

$$\vartheta_n = \vartheta_0 + \Delta Tn \quad (n = 0, 1, 2, \ldots) \qquad (2.1)$$

where θ_0 and ΔT are constants. According to (2.1) the sampling pulses move with respect to reference pulses with a constant velocity, so that the RHS of Eq. (I, 6.6) [Abstractor's note: I indicating

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that the equation belongs to Part I of the article] becomes

$$e^{i\omega(nT+\vartheta_n)} = e^{i\omega\vartheta_0} e^{i\omega nT_1}, \qquad (2.2)$$

where

$$T_1 = T + \Delta T. \qquad (2.3)$$

If $T \gg \Delta T$ the recurrent relationship (I, 6.6) may be rewritten as a difference equation

$$\Phi[n+1] - e^{-\alpha T}\Phi[n] = e^{i\omega nT} R(i\omega) e^{i\omega\vartheta_0} \qquad (2.4)$$

or

$$\Phi[n+1] - e^{-\alpha T}\Phi[n] = e^{i\Omega Tn} R(i\omega) e^{i\omega\vartheta_0} \qquad (2.5)$$

$$e^{i\Omega Tn} = \left\| \begin{matrix} e^{i\omega Tn}, & 0, \\ 0, & e^{i\omega Tn} \end{matrix} \right\|. \qquad (2.6)$$

For a steady stationary state initial conditions may be neglected,

$$\Phi[0] = 0 \qquad (2.7)$$

Card 2/5

Passing of random signals through ...

and $$\mathfrak{I}[n] = \frac{I}{e^{i\Omega T} - e^{-\alpha T}} e^{i\Omega Tn} R(i\omega)\, e^{i\omega\vartheta_0}. \qquad (2.8)$$

If the elements of matrix a, in accordance with (I, 6.3) and (I, 6.5) satisfy

$$|a_{jk}T| \ll T, \qquad (2.11)$$

$$I_1[n] = Q_1(i\omega)e^{i\omega Tn}, \qquad I_2[n] = Q_2(i\omega)e^{i\omega Tn} \qquad (2.15)$$

is obtained, where

$$Q_1(i\omega) = \frac{R_1(i\omega)\, e^{i\omega\vartheta_0}}{e^{i\omega T} - e^{-a_{11}T}},$$
$$Q_2(i\omega) = \frac{-a_{11}TR_1(i\omega)\, e^{i\omega\vartheta_0}}{(e^{i\omega T} - e^{-a_{11}T})(e^{i\omega T} - e^{-a_{22}T})} + \frac{R_2(i\omega)\, e^{i\omega\vartheta_0}}{e^{i\omega T} - e^{-a_{11}T}}. \qquad (2.16)$$

The correlation function of random signals are, according to (I, 1.12) and (2.15) given as

$$K_1[n, n'] = \int_{-\infty}^{+\infty} S_e(\omega) |Q_1(i\omega)|^2 e^{i\omega(n-n')T} d\omega, \qquad (3.1)$$

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Passing of random signals through ...

$$K_2[n, n'] = \int_{-\infty}^{+\infty} S_e(\omega) |Q_2(i\omega)|^2 e^{i\omega(n-n')T} d\omega. \quad (3.1)$$

at the output of the time discriminator and integrating amplifier respectively, from which the spectral densities of output signals are given by

$$S_1(\omega) = S_e(\omega) / Q_1(i\omega)/^2, \quad S_2(\omega) = S_e(\omega) / Q_2(i\omega)/^2. \quad (3.2)$$

Functions $/Q_1(i\omega)/^2$ and $/Q_2(i\omega)/^2$ (3.2) determine the frequency characteristics of a sampled data system, consisting of a time discriminator and one operational amplifier with one element with inertia,

$$/Q_1(i\omega)/^2 = P_{10}(\omega)P_{11}(\omega), \quad /Q_2(i\omega)/^2 = P_{20}(\omega)P_{21}(\omega). \quad (4.1)$$

This frequency characteristic is analyzed for the case of $P_{10}(\omega)$, by introducing a new variable $\xi = \omega\alpha_0$, where α_0 is the duration of

Card 4/5

KILIN, F.M. (Leningrad)

Passage of random signals through a time discriminator and an integrating amplifier. Part 2: Correlation functions and spectral densities of the output signals of a pulse system. Avtom. i telem. 23 no.1:25-33 Ja '62. (MIRA 15:1)
(Automatic control) (Pulse techniques (Electronics))

KILIN, M.I., inzh.-konsul'tant

In the sector of an electrician and efficiency promoter. Avtom., telem. i sviaz' 7 no.8:18-20 Ag '63. (MIRA 16:9)

1. Dom tekhniki Zapadno-Sibirskoy dorogi.
(Railroads--Employees)

KILIN, M.I., inzh.-konsul'tant

Presentation of advanced work methods on a screen. Avtom., telem. i sviaz' 9 no.4:44 Ap '65. (MIRA 18:5)

1. Dom tekhniki Zapadno-Sibirskoy dorogi.

KILIN, N.S., tekhnik

In connection with an accident. Energetik 10 no.7:28-29 Jl '62.
(MIRA 15:7)
(Electric engineering--Safety measures)

KILIN, S.F.; PAVLOV, A.A.; ROZMAN, I.M.

Measuring the luminiscence duration of organic scintillators. Prib. i tekh.eksp.no.2:50-53 S-O '56. (MLRA 10:2)
(Luminiscent substances--Measurement)
(Scintillation counters)

SOV/51-6-1-11/30

AUTHORS: Kilin, S.F. and Rozman, I.M.

TITLE: On the Law of Irradiation Excitation of Polystyrene Excited by Electrons (O zakone vysvechivaniya polistirola pri vozbuzhdenii elektronami)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol 6, Nr 1, pp 65-69 (USSR)

ABSTRACT: The author studied emission by polystyrene which is used as the basis of plastic scintillators. Duration of emission was determined by means of a phase fluorometer with a modulated 30 kV electron beam (Ref 7). The "fluorometric" time constant is given by $\tau_{fl} = (\tan \varphi)/\omega$ where φ is the phase shift between emission and excitation and ω is the frequency of modulation of the exciting radiation. If fluorescence decays exponentially τ_{fl} is independent of ω and is equal to the mean duration of emission τ. This makes it possible to check whether the decay law is exponential by measuring φ at various values of ω. It was found (Table 1) that τ_{fl} does depend on ω, i.e. emission of polystyrene excited with electrons obeys a non-exponential law of decay. Decrease of τ_{fl} with increase of ω (Table 1) contradicts Birks's theory of

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On the Law of Irradiation Excitation of Polystyrene Excited by Electron

radioluminescence (Refs 1, 2), according to which τ_{fl} should increase with ω. The experimental results given in this paper agree satisfactorily with an assumption of bimolecular mechanism of quenching. The authors point out that the experimental data do not contradict a different assumption, i.e. that there are several components of fluorescence in polystyrene which decay exponentially with different constants τ. There are 1 figure, 2 tables and 17 references, 7 of which are Soviet, 7 English, 2 German and 1 translation.

SUBMITTED: February 13, 1959

Card 2/2

SOV/120-59-2-16/50

AUTHORS: Kilin, S.F., Prosin, G.P., and Rozman, I.M.

TITLE: A Multi-frequency Phase Fluorometer with Double Frequency-Changing (Mnogochastotnyy fazovyy fluorometr s dvoynym preobrazovaniyem chastoty)

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 2, pp 57-59 (USSR)

ABSTRACT: Much progress has recently been made in fluorometry directed to fast processes. Sensitivities of 2×10^{-11} sec have been attained (Ref 1), which are not accessible with pulse techniques applied to photomultipliers and oscilloscopes. Phase fluorometers measure the fluorescence time τ_f, which is defined by

$$\omega\tau_f \equiv \operatorname{tg}\varphi = \int_0^\infty R(t) \sin \omega t \, dt \Big/ \int_0^\infty R(t) \cos \omega t \, dt,$$

where φ is the phase shift between the emitted and exciting fluxes, ω is the modulation frequency, and $R(t)$ is the fluorescence decay law. In general, τ_f is a function of ω; only if the decay is exponential law is τ_f independent of frequency and the same as the mean life of the fluorescence τ. The decay law cannot be established unambiguously by measuring τ_f at different

Card 1/6

frequencies (Ref 2), but such measurements can be used to determine whether the decay is exponential, and to test any proposed decay law. Strictly speaking, only unperturbed molecules fluoresce exponentially. Quenching agents cause the decay to deviate from exponential (Refs 3-5). Bimolecular quenching occurs when the emission is excited by ionizing radiation with a heavy ionization density; the decay law is then much affected (Refs 6,7). Scintillations excited in this way show an initial sharp peak, which passes gradually into an exponential decay. If primary photons play a major part in the scintillation (Ref 8), the photon cascades these primaries produce must give a decay curve that shows an initial rising section. Attempts to establish the decay curve for anthracene have given entirely contradictory results (Refs 9,10). If the modulation frequency is not too low, i.e. if $\sin \omega t$ (or $\cos \omega t$) has time to change appreciably during the mean decay time, t_m, τ_f is sensitive to the shape of the decay curve, and the shape of the $\tau_f(\omega)$ spectrum may be used to indicate roughly the form of the decay curve. The phasemeter system

A Multi-Frequency Phase Fluorometer with Double Frequency-Changing

described previously (Ref 11) has been extended by adding units to perform phase measurements at 8, 12, 15 and 20 Mc/s. Fig 1 shows the block diagram. The mixer, 1, receives frequencies f_1 and f_2 from a quartz oscillator and from a GSS-6 signal generator. A resonant circuit selects the beat frequency $F_1 = f_1 - f_2$ and feeds it to an electron-beam modulator. The mixer, 2, receives the frequency F_1 from the photomultiplier (which detects the fluorescence), and f_2 from the GSS-6. A resonant circuit selects the frequency $F_2 = F_1 + f_2 = f_1$. Thus the double frequency-changing enables one to make phase measurements at a fixed frequency of 20 Mc/s, whereas the beam is modulated at frequency F_1. Now F_1 differs greatly from f_1 and f_2, and so the various frequencies can be separated very thoroughly by the filters. The frequency f_1 (20 Mc/s) is stable (quartz oscillator), so the main causes of phase drift are frequency instability in the GSS-6 and instabilities in the resonant circuits, in the electron beam, and in the photomultiplier (an FEU-25). Under the most unfavourable conditions, with $F_1 < f_2$ (modulation frequency 8 Mc/s),

A Multi-Frequency Phase Fluorometer with Double Frequency-Changing

when $\Delta f_2/F_1 > \Delta f_2/f_2$ the zero drift is about 0.5°/min. An 8-position sample-holder is used to change the sample and check the zero reading quickly. Numerous measurements made with the instrument indicate that the root-mean-square error is about 1°. Fig 2 gives some results for plastic phosphors, (Ref 12). The fluorescent additives were excited by the light produced in a separate polystyrene disc (λ = 310 mμ), which was excited by a modulated beam of 30 kV electrons. The plastic phosphors containing tetraphenylbutadiene and triphenylpyrazoline showed no dependence of τ_f on frequency, within the experimental error. Calculations show that τ_f should fall uniformly with frequency if the decay consists of two components, both exponential but with different values of τ. The anthracene content of 10^{-2} g/g (Fig 2, curve 3) gives $\tau_1 = 2.7 \times 10^{-9}$ sec and $\tau_2 = 16 \times 10^{-9}$ sec. Anthracene in benzene gives the same value of τ_1, (Ref 13); τ_2 relates to anthracene bound to polystyrene, (Ref 14). The phase difference between the modulated electron beam and the fluorescence has to be measured in this method; the two signals are of different physical

A Multi-Frequency Phase Fluorometer with Double Frequency-Changing

types. There are several ways of making the measurement (Refs 11, 15). If we use several different frequencies to measure the phase difference between two different values of τ, we can draw up enough equations to determine τ_1, and τ_2, and to eliminate the unknown initial phase of the electron beam. Measurements made with several pairs of phosphors show that it is impossible to get agreement between the values of τ_1 and τ_2 for all combinations of the frequencies (any two frequencies suffice to give τ_1 and τ_2, so the number of combinations is 6). Hence the decay laws are not exponential. The results for polystyrene (which is the basis of the most plastic phosphors) can be explained if we suppose that some of the excited molecules interact with one another, i.e. that bimolecular processes occur. We would get the reverse dependence of τ_f on frequency if we were to assume primary photons present. Some more detailed aspects of this topic will form the subject of a separate paper.

Card 5/6 This is a complete translation apart from Fig 1. There are 2 figures and 15 references, of which

A Multi-Frequency Phase Fluorometer with Double Frequency-Changing

3 are German, 4 are English, 7 are Soviet and 1 is translated from English.

Fig 2 captions are: Relation of γ_f to modulation frequency for various phosphors. 1) tetraphenyl butadiene in polystyrene, 3×10^{-4} g/g; 2) triphenyl-pyrazoline in polystyrene, 2×10^{-2} g/g; 3) anthracene in polystyrene, 10^{-2} g/g.

Card 6/6

SUBMITTED: February 13, 1958

KILIN, S.F.; ROZMAN, I.M.

Effect of reabsorption on the duration of fluorescence of organic substances. Opt. i spektr. 6 no.1:70-77 Ja '59. (MIRA 12:3)
(Fluorencence)

24(7)
SOV/48-23-1-22/36

AUTHORS: Rozman, I. M., Andreyeshchev, Ye. A., Kilin, S. F.

TITLE: On the Mechanism of the Luminescence of Plastic Scintillator. (O mekhanizme lyuminestsentsii plastmassovykh stsintillyatorov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 1, pp 1o2 - 1o7 (USSR)

ABSTRACT: The energy yield of scintillation in organic luminescent scintillators is much lower than that of luminescence. This fact gave rise to various different hypotheses in publications as to the luminescence mechanism of these substances. One of the hypotheses mentioned (Refs 13,14, 15,16), according to which a bimolecular extinction process is responsible for the low energy yield of the scintillation of organic substances, is not in contradiction to the experimental results obtained in this paper. The luminescence energy yield for plastic scintillators was determined on the basis of polystyrene with an addition of 0.015 g/g 1,1,4,4, tetraphenyl-1,3-butadiene for the case of excitation of the Co^{60} with γ-rays. The device

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used for measuring the luminescence intensity ϕ is illustrated by a figure. The dependence of the luminescence yield ϕ/D (D = γ-radiation dose) on the shape and size of the scintillator (sphere and cylinder) is shown by a table. With a reduction of dimensions the yield increases slightly. For the zero mass of the sample a luminescence yield of 0.038 was found (by means of extrapolation), and the specific amount of scintillation was determined as amounting to

$s = \frac{B}{h\nu} = 14$ photons/kev. For the purpose of investigating the extinction of polystyrene luminescence, the "fluorometric time" τ was determined (Table 2). For the modulation frequency it holds that

$\tau_{fl} = \frac{1}{\omega} \operatorname{tg}(\ldots)$, $\tau \sim 10^{-9}$ sec. This is indicative of a bimolecular process. From these deliberations it follows that an additional extinction occurs with a rate of

> 10^{10} sec^{-1}, but that the specific amount of scintillation is only 5 times smaller than if there were no additional scintillation. There are two possibilities for agreement between these facts: a) a certain part of the primary activations is very rapidly extinguished at the expense of "non-active" absorption or at expense of the local increase of temperature (temperature extinction of fluorescence and scintillation of polystyrene coincide), or b) a binolecular extinction of part of the primary activations is assumed. (Calculation and table of results are given). There are 2 figures, 3 tables, and 24 references, 10 of which are Soviet.

2160), 7(5) SOV/53-69-3-4/6

AUTHORS: Rozman, I. M., Kilin, S. F.

TITLE: Luminescence of Plastics Scintillators

PERIODICAL: Uspekhi fizicheskikh nauk, 1959, Vol 69, Nr 3, pp 459-482 (USSR)

ABSTRACT: The present article gives a systematic account of the data hitherto known concerning plastics scintillators; with respect to other surveys dealing with this field reference is made to monographs (Refs 1-3), to surveys (Refs 4-7) and to reference 5, which gives a survey of experimental methods of investigating scintillator properties. The scintillators are subdivided into 3 classes: anorganic crystals, organic substances, and noble gases. Among the organic substances, plastics (as e.g. polystyrene, polyvinyltoluene) are characterized by their great light emission. The average duration of scintillation is between 10^{-9} and 10^{-8} sec; they are well suited as "fast" detectors of ionizing particles; they are mechanically solid, not hygroscopic, and may also be used in a vacuum and within large temperature intervals. In chapter 2 the production methods are briefly discussed (catalytic polymerization and thermal polymerization).

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Luminescence of Plastics Scintillators SOV/53-69-3-4/6

Chapter 3 discusses the luminescence characteristics. The most important are time- and energy resolving power. The former depends on the time-dependent distribution of luminescence photons inciding upon the photoelectronic multiplier, the latter on the energy absorbed per photoelectron in the scintillator. The same importance must be attached to "proportionality" (between absorbed energy and impulse in the multiplier). The properties of a scintillation counter depend essentially on the luminescence yield, the luminescence spectrum, and the duration of scintillation. The luminescence characteristics, however, depend, besides on the nature of the matter, also on dimensions and the light collection conditions. The external (calculatory) characteristics may differ essentially from the internal (physical) ones of a scintillator. In the following the luminescence spectra are briefly discussed on the basis of two diagrams and one table, and in the next chapter the luminescence yield (ratio between the entire luminescence energy and the absorbed excitation energy) and the specific amount of the scintillation (number of photons per absorbed excitation energy unit) are dealt with. Several simple relations are given and the respective characteristics of various scintillators are discussed on the

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basis of tables. In the next chapter the duration of luminescence and the form of the scintillators are discussed (2 diagrams, 2 tables). In chapter 4 the scintillation mechanism is dealt with. The phases are discussed on the basis of the example of radioluminescence: 1) Stopping of the charged particle, excitation of the molecule. 2) All processes up to charge- and energy loss. Some problems connected herewith are discussed as e.g. excitation and ionization. Several problems of absolute luminescence yield are discussed in the next chapter. In the optimum case a specific scintillation magnitude $s_{max} = \eta/\varepsilon_o = \frac{1}{8}\eta$ photons/ev is obtained, a value which is practically not attained; for 1 Mev electrons in anthracene $s/\eta = 0.03$. Galanin and Grishin (Ref 44) tried to derive this ratio for fast electrons theoretically - they obtained $s/\eta = 0.006$. In the following the interaction of activated molecules among one another is discussed together with some further theoretical and experimental investigations (Rozman, Galanin, Prosin, Kilin). The next chapter deals with the degree of efficiency of the excitation energy transfer in plastics scintillators, and chapter 5 deals with some examples of the

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S/120/60/000/02/014/052
E140/E335

AUTHORS: Kilin, S.F. and Rozman, I.M.

TITLE: On the Time Spread of Certain Photomultipliers

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, Nr 2, pp 57 - 58 (USSR)

ABSTRACT: The time spread in the dynode portion of multipliers has previously (Refs 2-4) been determined. The present paper reports the time spread of certain Soviet photomultipliers and RCA 5819 in the cathode region. A phase-shift method was used.
There are 1 figure, 1 table and 6 references, 3 of which are Soviet and 3 English.

SUBMITTED: March 25, 1959

Card 1/1

VIKTOROV, D.V.; KILIN, S.F.; ROZMAN, I.M.

Proportionality of a counter with a plastic scintillator. Prib. i tekh. eksp. no.6:27-30 N-D '60. (MIRA 13:12)
(Scintillation counters)

27700
S/120/61/000/003/010/041
E073/E335

24 3500

AUTHORS: Baroni, Ye.Ye., Kilin, S.F., Kovyrzina, K.A., Rozman, I.M. and Shonlya, V.M.

TITLE: On the Duration of the Light-emission of Plastic Scintillators

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No. 3, pp. 72 - 74

TEXT: The results are described of measurements of the light-emission time of the relative yield of luminescence for a number of plastic scintillators based on polystyrene and polyvinyltoluol. The measurements were made by means of an X-ray phase fluorimeter. The data permit estimating the "suitability" of plastic scintillators in "high-speed circuits". The measured "fluorimetric times" are tabulated for plastic scintillators with a single luminescent addition. It was found that the times were particularly low for scintillators made of di- and triphenyloxazole, diphenyloxodiazole and n-terphenyl. Of the investigated scintillators the largest H/τ value was obtained for scintillators with n-terphenyl, the

Card 1/4

On the Duration of ....

optimum concentration being 4 g per 100 g of monomer. The dependence of H/τ on the polymerisation conditions of polyvinyltoluol showed an unexplained decrease in τ in the case of polymerisation at 200 °C. The fluorimetric time for polyvinyltoluol equals 13.5 nanosecs for a polymerisation time of 120 hours at 170 °C and 11.5 nanosec for 30 hours polymerisation at 200 °C. Spectrum mixing agents bring about an increase in H owing to a decrease of the self-absorption in the basic addition and lead to a better correspondence of the emission spectra with the spectral sensitivity of the photo-electron multipliers. However, the value of τ also increases simultaneously. The rôle of the spectrum-mixing agents 4P, PPS and StS consists basically of the transformation of the short-wave part of the illumination spectrum 3P into a proper emission spectrum. Thereby, the influence of reabsorption in the 3P itself on the external magnitude of the scintillation and on the duration of the light emission is excluded. The obtained data show that as regards the speed of the response (H/τ) some plastics are superior to stilbene. Table 4 shows

the comparative values; all the plastic scintillators had a diameter of 28 mm, height of 25 mm with a MgO reflector and H_γ was measured by means of a photomultiplier ФЭУ-29 (FEU-29). There are 4 tables and 8 references: 5 Soviet and 3 non-Soviet. The two English-language references quoted are: Ref. 1 - R.K. Swank, W.L. Buck - Rev. Scient. Instrum., 1955, 26, 15; Ref. 2 - R.C. Sangster, J.W. Irvine - J. Chem. Phys., 1956, 24, 670.

SUBMITTED: June 21, 1960

X

KILIN, S.F.; KOVYRZINA, K.A.; ROZMAN, I.M.

Luminescence of n-terphenyl in a mixture of toluene and carbon tetrachloride. Opt. i spektr. 11 no.3:390-396 S '61. (MIRA 14:9)

(Terphenyl) (Luminescence)

S/051/62/012/006/007/020
E075/E436

AUTHOR: Kilin, S.F.

TITLE: Duration of photo- and radioluminescence of organic materials

PERIODICAL: Optika i spektroskopiya, v.12, no.6, 1962, 733-737

TEXT: Measurements were made of the duration of scintillation and photoluminescence of some organic crystals, plastic scintillators and organic luminophors in the form of powders. The scintillation was measured by an X-ray phase fluorometer with the modulation frequency of 20 megacycles and anode potential of 60 kev. It was found that for the materials investigated (crystals: anthracene, stilbene; powders: anthracene, stilbene, tolane, 1,1',4,4'-tetraphenyl-1,3-butadiene, 1,3,5-triphenyl-Δ^2-pyrazoline, 1-(β-naphthyl)-3,5-diphenyl-Δ^2-pyrazoline, 1-(n-totyl)-3,5-diphenyl-Δ^2-pyrazoline, 1,3-diphenyl-Δ^2-pyrazoline, 1,3-diphenyl-5-(n methoxyphenyl)-Δ^2-pyrazoline, 3,4,5-triphenyloxazolone, 4-styrylstilbene; plastic masses: polyvinyltoluene and polystyrol + the organic compounds, as above. The quenching of radioluminescence

excited by X-rays has fast and slow components. For the plastic scintillators there is no slow component, or its proportion is small, since the depth of modulation is much smaller for the plastic masses than it is for the organic crystals and powders, the differences in the fluorometric time being small. The proportion of light in the slow component reaches 1/3. The influence of the slow component, during the measurements of the glow duration, is due to an increase in the fluorometric time. For the crystals and powders the fluorometric time may be considered as the upper limit of the scintillation time. For the plastic scintillators the length of scintillation includes the time taken for the transfer of the excitation from the bulk of the material to the luminescent additive; the duration of photo-luminescence is composed only of the length of time of exhaustion of the additive. It was found that for the crystals, powders and plastic masses the time of radioluminescence is much longer than the time of photoluminescence. There are 1 figure and 2 tables.

SUBMITTED: April 26, 1961

Card 2/2

KILIN, S.F.

Lifetime of photo- and radioluminescence of organic substances.
Opt. i spektr. 12 no.6:733-737 Je '62. (MIRA 15:5)
(Luminescence) (Organic matter)

S/120/63/000/001/008/072
E032/E314

AUTHORS: Kilin, S.F., Murguliya, G.Ye. and Rozman, I.M.

TITLE: Recording of pulsed X-rays by capacitor-type ionization chambers

PERIODICAL: Pribory i tekhnika eksperimenta, no. 1, 1963, 42 - 45

TEXT: An important feature of these chambers is that they are not connected to the measuring device during exposure to radiation. This means that they can be used to record ionizing radiation in the presence of a high level of electromagnetic pick-up, e.g. in the case of high-current pulsed discharges. A chamber of this type is described for determination of the intensity of X-rays with energies in excess of a few keV. It is illustrated in Fig. 1, in which 1 is the inner electrode, 2 the outer electrode, 3 the screen, 4 insulators, 5 guard ring, 6 electrometer, 7 charging device and 8 auxiliary battery. The total volume of the chamber is 35 l. and its diameter and length are 30 and 50 cm, respectively. In the case of soft X-rays a thin (2 mm) perspex window, having a transmissivity

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of 0.7 at 10 keV, is employed. Ionization is then localized near the window in such cases and in order to produce a more uniform electric field in this region the inner electrode carries a thin (2 mm) perspex disc. The battery 8 is used to ensure complete collection of ions. The insulators are made of teflon and will ensure retention of the charge on the collector for a few hours. The capacitance of the chamber is 33.5 pF. The charge is measured with a vacuum-tube voltmeter with an input capacitance of about 1 pF and a grid current of less than 10^{-14} A. The chamber may be filled with air (aluminum walls) or with crypton or xenon (steel walls). Examination of the experimental results shows that the sensitivity of the device is greater than that of the sensitivity of the photographic method by several orders of magnitude, although it is much lower than that of the scintillation method. However, it has the great advantage of simplicity and independence of electromagnetic pick-up. There are 3 figures.

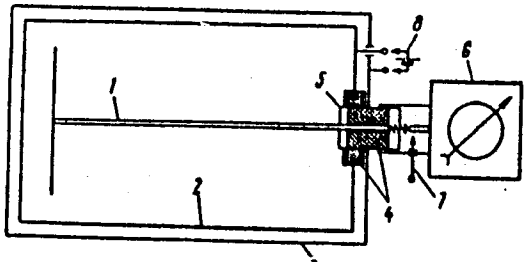
ASSOCIATION: Fiziko-tekhnicheskiy institut AN GruzSSR
(Physicotechnical Institute of the AS, Georgian SSR)

Recording of ....

S/120/63/000/001/008/072
E032/E314

SUBMITTED: February 14, 1962

Fig. 1:



Card 3/3

ANDRÈYESHCHEV, Ye.A.; KILIN, S.F.; ROZMAN, I.M.; SHIROKOV, V.I.

Transfer of electron excitation energy in viscous solutions of organic substances. Izv.AN SSSR.Ser.fiz. 27 no.4:533-539 Ap '63. (MIRA 16:4)

1. Fiziko-tekhnicheskiy institut AN Gruzinskoy SSR.
(Fluorescence) (Organic compounds) (Quantum theory)

KILIN, S.F.; ROZMAN, I.M.

Radioluminescence of organic substances. Part 2: Duration of radiation in nonluminescent solvents. Opt. i spektr. 15 no.4: 494-499 O '63. (MIRA 16:11)

VIKTOROV, D.V.; KILIN, S.F.; ROZMAN, I.M.

Dependence of the luminous efficiency of organic scintillators on the proton energy. Prib. i tekh. eksp. 9 no.4:90-93 Jl-Ag '64. (MIRA 17:12)

1. Fiziko-tekhnicheskiy institut AN GruzSSR.

KILIN, S.F.; MIKHELASHVILI, M.S.; ROZMAN, I.M.

Radioluminescence of organic substances. Part 3. Opt. i spektr. 16 no. 4:663-673 Ap '64. (MIRA 17:5)

ACCESSION NR: AP4022870 S/0051/64/016/004/0663/0673

AUTHOR: Kilin, S.F.; Mikhelashvili, M.S.; Rozman, I.M.

TITLE: Concerning radioluminescence of organic substances. 2. Specific luminescence quenching under excitation by fast electrons

SOURCE: Optika i spektroskopiya, v.16, no.4, 1964, 663-673

TOPIC TAGS: cathodoluminescence, radioluminescence, luminescence quenching, scintillator, triphenyl derivative, tetraphenyl derivative, triphenylpyrazoline

ABSTRACT: Parts 1 and 2 (S.F.Kilin, K.A.Kovy*rzina and I.M.Rozman, Opt.i spektro. Sbornik 1.Lyuminestsentsiya,p.147,Pub.AN SSSR,1963; S.F.Kilin and I.M.Rozman, Ibid. 15,494,1963) of the present series of papers were devoted to description of the results of investigation of the luminescence of alcohol and water solutions of a number of organic compounds. Appreciable reduction of the persistence of luminescence under x-ray excitation as compared with luminescence under photoexcitation was taken as evidence of specific quenching of radioluminescence in these solutions. The present paper gives further experimental results and an interpretation thereof. There were studied two-component liquid and plastic (solid) scintillators in which

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ACCESSION NR: AP4032370

the solute molecules are acceptors of the electronic excitation energy acquired by the solvent molecules. Data, in the form of curves of the luminescence yield and persistence as a function of the solute concentration, for 2,4,5-triphenyl-1,3-oxazole in toluene, 1,3,5-triphenyl-Δ^2-pyrazoline in toluene, 1,1,4,4-tetraphenyl-1,3-butadiene in polystyrene, and triphenylpyrazoline in polyvinyltoluene under excitation by ultraviolet (2652 Å) and fast electrons from C^{14} are presented in figures. It is shown that in the case of stimulation by electrons there is evinced an added dynamic quenching of the acceptor luminescence. A phenomenological theory of the effect is proposed; this leads to the correct relationships between values of the persistence and yield of radioluminescence (cathodoluminescence) and of photoluminescence. It is noted that such added dynamic quenching is exhibited not only by good sintillators, but also by organic substances in water and alcohol solutions (see second reference above). Orig.art.has: 38 formulas, 8 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 01Jun63 DATE ACQ: 07May64 ENCL: 00

SUB CODE: OP NR REF SOV: 010 OTHER: 005

Card 2/2

L 20216-65 EWT(1)/EWT(m)/EPF(c)/EWP(j)/EEC(b)-2 Pc-4/Pr-4 IJP(c)/RPL/
AEDC(a)/AFWL/SSD/AS(mp)-2/ESD(gs)/ESD(t) RM

ACCESSION NR: AP5039711 S/0051/64/016/006/1063/1065

AUTHOR: Kilin, S. F.; Mikhailashvili, M. S.; Rozman, I. M.

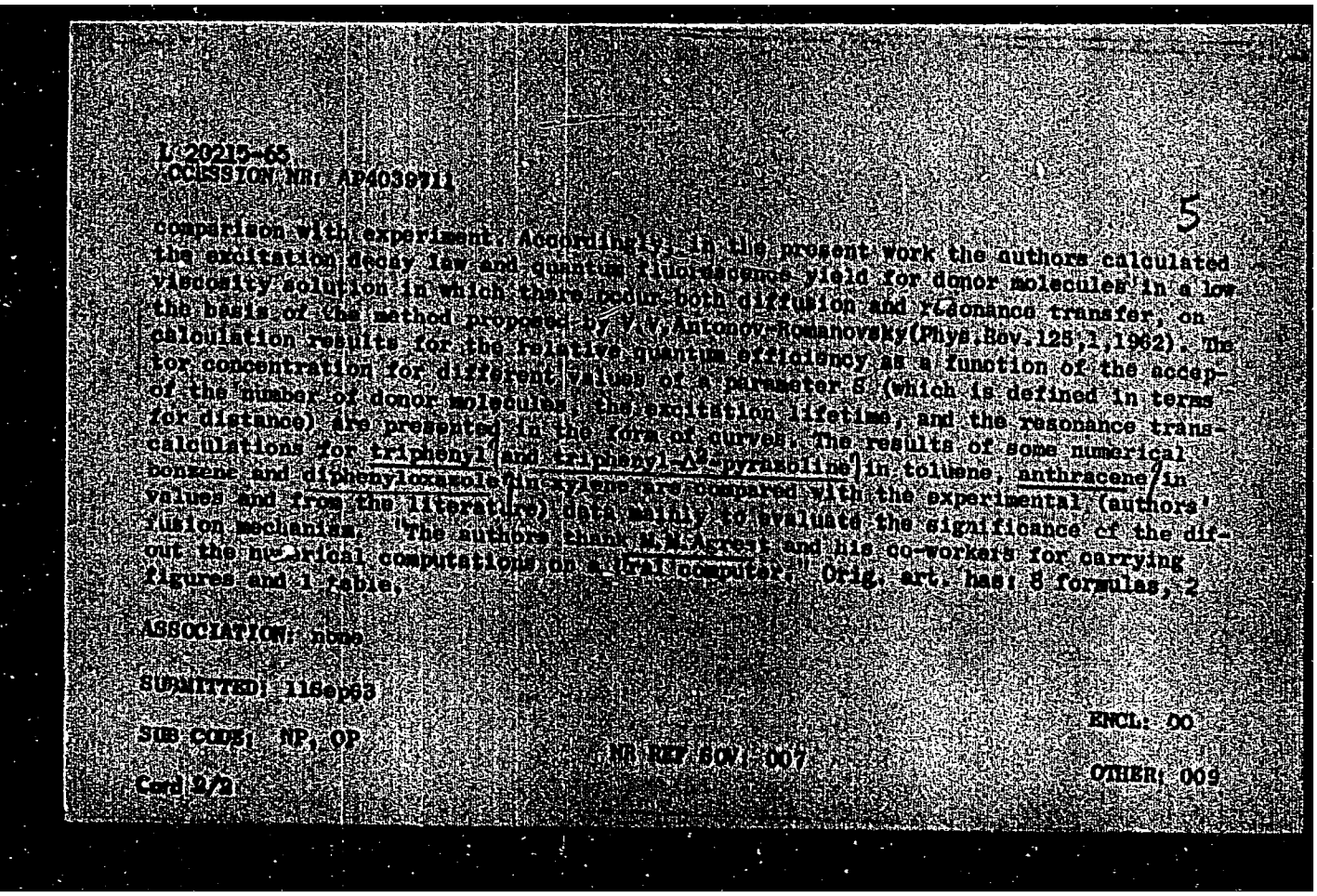
TITLE: Concerning electronic excitation energy transfer in liquid solutions

SOURCE: Optika i spektroskopiya, v. 16, no. 6, 1964, 1063-1065

TOPIC TAGS: energy transfer, energy migration, diffusion, scintillator, luminescence quenching, luminescence yield

ABSTRACT: The theory of resonance transfer of excitation energy in luminescent solutions, developed by Th. Forster (Z. Naturforsch., 4a, 321, 1949) and M. D. Galinin (Zh. eksp. i teor. fiz., 28, 405, 1955) yields results that are in good agreement with experiments for viscous solutions. In the case of solutions with low viscosity, however, experiment usually indicates a higher migration efficiency than predicted by the Forster-Galinin theory. It has been hypothesized that the reasons for the divergence are molecular diffusion and transfer incident to molecular encounters. Yu. A. Kurskiy and A. S. Selivanenko (Opt. i spektr., 8, 643, 1960) and A. M. Samson (Ibid. 13, 511, 1962) attempted to solve the problem of energy transfer, taking into account both these factors, but their treatments were not carried far enough to permit direct

Card 1/2



L 20215-65
ACCESSION NR: AP4039711

5

comparison with experiment. Accordingly, in the present work the authors calculated the excitation decay law and quantum fluorescence yield for donor molecules in a low viscosity solution in which there occur both diffusion and resonance transfer, on the basis of the method proposed by V.V.Antonov-Romanovsky(Phys.Rev.125,1,1962). The calculation results for the relative quantum efficiency as a function of the acceptor concentration for different values of a parameter S (which is defined in terms of the number of donor molecules, the excitation lifetime, and the resonance transfer distance) are presented in the form of curves. The results of some numerical calculations for triphenyl and triphenyl-A²-pyrazoline in toluene, anthracene in benzene and diphenyloxazole in xylene are compared with the experimental (authors') values and from the literature) data used to evaluate the significance of the diffusion mechanism. The authors thank M.A.Agreal and his co-workers for carrying out the numerical computations on a URAL computer. Orig. art. has: 8 formulas, 2 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 11Sep63

ENCL: 00

SUB CODE: NP, OP

NR REF SOV: 007

OTHER: 009

Card 2/2

L 14038-65 EWT(m)/EWP(t)/EWA(h) Pc-4 APWL/ASD JW
ACCESSION NR: AP4044857 S/0051/64/017/003/0431/0437

AUTHOR: Kilin, S. F.; Rozman, I. N.

TITLE: Radioluminescence of organic substances. IV. Alpha, beta ratio of plastic scintillators

SOURCE: Optika i spektroskopiya, v. 17, no. 3, 1964, 431-437

TOPIC TAGS: scintillator, polystyrene, organic phosphorescence, luminescence quenching, luminescence yield, alpha particle reaction, beta particle reaction

ABSTRACT: The first three parts of this paper were published in Opt. i Spektr. Suppl. 1 "Luminescence, p. 147, 1963, and Opt. i spektr. v. 15, 266, 1963. It is shown that the variation of the α,β-ratio ($D_{\alpha\beta}$) of plastic scintillators based on polystyrene with organic compounds cannot be attributed to the increase in the energy-transfer rate from the excited molecules of the solvent to the mole-

Card 1/4

cules of the dissolved matter, as in the case of liquid scintillators, but it is also necessary to take into account the possibility of additional quenching of the acceptor molecules. The authors therefore measured $D_{\alpha\beta}$ of plastic scintillators based on polystyrene with different luminescent impurities. The ratio is found to depend on the individual properties of the impurity, and decreases with increasing concentration for most investigated compounds. The measurements of $D_{\alpha\beta}$ were therefore supplemented with measurements of the ratio of the luminescence yields under photoexcitation and excitation with α and β particles. The scintillator production procedure was the same as used by Andreyeshchev et al. (PTE no. 6, 27, 1960). The results show that the numerical values of $D_{\alpha\beta}$ depend strongly on the luminescent compound. In the case of 1, 3, 5 terphenyl-Δ^2-pyrazoline and in the case of 2,5 diphenyl-1,3 oxazole the value of $D_{\alpha\beta}$ decreases with increasing concentration. In addition, the dependence of the light yield on the energy of the α particles was practically the same for all substances. The results are

L 14038-65
ACCESSION NR: AP4044857

3

interpreted by assuming the presence of specific quenching of the radioluminescence. "The authors are grateful to Ye. A. Andreshchevav, V. S. Viktorova, and A. P. Kulakova for help with the measurements." Orig. art. has: 4 figures, 2 formulas, and 2 tables.

ASSOCIATION: None

SUBMITTED: 17Oct63 ENCL: 01

SUB CODE: OP, OC NR REF SOV: 006 OTHER: 005

Card 3/4

L 14038-65
ACCESSION NR: AP4044857
ENCLOSURE: 01

Fig. 1. $D_{\alpha\beta}$-ratio of plastic scintillators based on styrene polystyrene

1	2 C_A, mole/l	3 $D_{\alpha\beta}$ при E_α, Мэв		
		1.5	4.1	5.0
1,3,5-Трифенил-Δ^2-пиразолин (ТФП)	0.068	0.070	0.080	0.049
	0.17	0.052	0.048	0.035
	0.28	0.045	0.038	
	0.33	0.040	0.030	
2,5-Дифенил-1,3-оксазол (2ФО)	0.046	0.065	0.074	
	0.14	0.062	0.056	0.052
2,5-Дифенил-1,3,4-оксадиазол (2ФОД)	0.27	0.074	0.061	
Флуорантен	0.046	0.107	0.068	0.072
4-Стирилстильбен (СтС)	0.060	0.107	0.118	0.102
Тетрафенилпиррол	0.055	0.079	0.067	
Трифенилпиррол	0.059	0.118	0.083	0.077
1,5-Дифенил-3-(п-метоксифенил)-Δ^2-пиразолин (2ФОФП)	0.065	0.091	0.073	0.060
1,1,4,4-Тетрафенил-1,3-бутадиен (4ФБ)	0.028	0.060	0.078	0.065
1,4-Дифенил-1,3-бутадиен (2ФБ)	0.10	0.105	0.088	0.085
п-Терфенил (ЗФ)	0.13	0.107	0.080	0.078
Аценафтен	0.20	0.120	0.105	0.091

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1 - luminescent additive
2 - C_A, mole/liter
3 - $D_{\alpha\beta}$ at E_α, Mev

Luminescent additives:
1,3,5-Terphenyl- Δ^2- pyrazoline
2,5-Diphenyl-1,3-oxazole
2,5-Diphenyl-1,3,4-oxydiazole
Fluoranthene
4-Styrilstilbene
Tetraphenylpyrrole
Triphenylpyrrole
1,5-Diphenyl (n-metoxyphenyl)-Δ^2-pyrazoline
1,1,4,4-Tetraphenyl-1,3-butadiene
1,4-Diphenyl-1,3-butadiene
n-Terphenyl
Acenaphthene

L 14980-65 EWT(l)/EWT(m)/EPF(c)/EWP(j)/EWA(h) Pc-4/Pr-4 IJP(c)/Pa-4 RM
ACCESSION NR: AP4048740 S/0051/64/017/005/0705/0711

AUTHORS: Kilin, S. F.; Rozman, I. M. B

TITLE: Radioluminescence of organic substances: V. Kinetics of luminescence of solutions of some compounds in heptane, nonane, cyclohexane, and dioxane

SOURCE: Optika i spektroskopiya, v. 17, no. 5, 1964, 705-711

TOPIC TAGS: radioluminescence, light excitation, organic solvent, heptane, nonane, cyclohexane, dioxane, organic luminor

ABSTRACT: To obtain information on the mechanism whereby excitation is transferred from the solvent to the solute, the authors measured the luminescence yield and time as functions of the concentration of the luminescent substance. The measurement procedure was described in the earlier papers of this series (Opt. i spektr. v. 12, 248, 1962 and v. 15, 494, 1963). The solutes were anthranilic acid, 1,

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L 14980-65

ACCESSION NR: AP4048740

3,5-triphenyl-Δ^2 pyrazoline, and anthracene. Luminescence was excited by ionizing radiation and by light in the absorption band of the solutes. The radioluminescence yield in paraffins is approximately one-half the yield in toluol. The radioluminescence duration in paraffins is equal to the fluorescence duration of the solute (to within $\pm 2 \times 10^{-2}$ sec). The high efficiency of transfer of the electron excitation energy from the paraffins to the dissolved substance is attributed either to rapid displacement of the excitation over the solvent molecules, or to the possibility that the excitation is produced by large colonies of molecules as a whole. The results are not accurate enough to be fully conclusive. Orig. art. has: 3 figures, 9 formulas, and 3 tables.

ASSOCIATION: None

SUBMITTED: 12Dec63 ENCL: 00

SUB CODE: OP,OC NR REF SOV: 007 OTHER: 017

Card 2/2

L 20047-65 EPT(c)/EWG(j)/EWA(h)/EWP(j)/EWT(m)/EWA(l) Po-4/Pz-4/Peb
BSD/APML/ASD(a)-3/APMD(c) JN/DM
ACCESSION NR: AP5001272 S/0089/64/017/006/0497/0500

AUTHOR: Baron, Ya. Ya.; Kiselev, B. Y.; Tabadze, T. N.; Rozman, I. M.; Shonia, V. M.

TITLE: Introduction of organoelemental compounds in polystyrene

SOURCE: Atomnaya energiya, v. 17, no. 6, 1964, 497-500

TOPIC TAGS: polystyrene, organoelemental compound, copolymerization, shielding material, luminescent additive, scintillation counter

ABSTRACT: Materials for γ-radiation and for neutron shielding and scintillation counters have been synthesized by high-temperature copolymerization of styrene with tetraphenyl lead, diphenylmercury, tetraphenyltin, triphenylarsen, triphenylbismuth, or diphenylselenium. Scintillators were prepared by introduction into styrene of such luminescent additives as terphenyl. The copolymerization conditions of materials containing 12% Pb, 19% Bi, 33% Hg, 12% As, 11% Sn, or 10% Se are described in detail, and the results of measurements of the quantum efficiency of scintillators containing Pb, Hg, or Sn are given. Orig. art. has: 4 tables.

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L 20050-65
ACCESSION NR: AP4049535

2

stably at all power levels including the maximum (90 MW). The total icebreaker power of 44,000 hp was provided by three reactors operating simultaneously at 65 MW each. Each reactor produced 360 tons steam per hour at 28 kg/cm^2 and 300--310C. The operational and neutron-physics characteristics of the reactors, the procedures used to reload the reactors, and the training of personnel are described in some detail. It is concluded that the atomic equipment of the icebreaker operated satisfactorily in all respects. "The experimental neutron-physics characteristics of the active zones of the reactors were obtained by the co-workers N. A. Lazukova and A. K. Sledzyuka." Orig. art. has: 10 figures.

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: NP NR REF SOV: 003 OTHER: 000

Card 2/2

L 11086-66 EWT(1)/EWT(m)/EWP(1)/EWA(h)/EWA(1) IJP(c) GS/RM

ACC NR: AT5023439 SOURCE CODE: UR/0000/65/000/000/0122/0126

AUTHOR: Kilin, S. F.; Rozman, I. M. 44,55

ORG: none 44,55

60
B+1

21; 44,55

TITLE: Specific quenching of luminescence of organic compounds during excitation by fast electrons

SOURCE: Simpozium po elementarnym protsessam khimii vysokikh energiy. Moscow, 1963. Elementarnyye protsessy khimii vysokikh energiy (Elementary processes of the chemistry of high energies); trudy simpoziuma. Moscow, 1965, 122-126

II 44,55

TOPIC TAGS: luminescence quenching, excited electron state, electron energy, luminescence, electron bombardment, photoluminescence, fluorescence

ABSTRACT: The yield and duration of luminescence in several organic compounds was studied during their excitation by fast electrons to assess the dynamic quenching effect. Luminescence duration was measured on a phase fluorometer with a modulation frequency $\omega = 1.25 \cdot 10^8$ sec. Dependence of luminescence duration of plastic scintillators upon concentration of luminescence additive is shown in fig. 1. Dependence of luminescence yield of liquid and plastic scintillators upon additive concentration is shown in fig. 2. For dependence of luminescence duration of anthranilic acid in

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L 11086-66

ACC NR: AT5023439

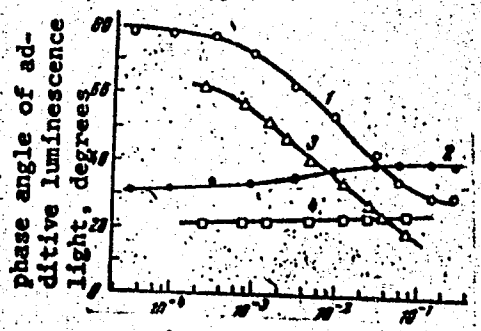

Fig. 1. 1 and 2--1,3,5-triphenyl-Δ^2-pirazole in polyvinyltoluene; 3 and 4--1,1,4,4-tetraphenyl-1,3-butadien in polystyrene; curves 1 and 3--excitation by x-rays and curves 2 and 4--excitation by UV light (λ = 3200-3800 Å).

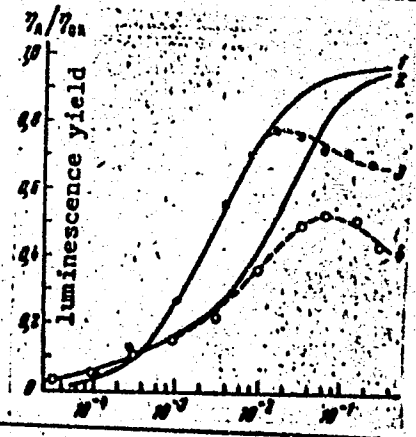

Fig. 2. 1 and 2--ratios of quantum yields of additive fluorescence during excitation of solvent (λ = 2652 Å) and indirect excitation of additive (λ = 3650 Å), 3 and 4--ratios of luminescence intensity during excitation of C^{14}-compound by β-particles and photons (λ = 3650 Å), curves 1 and 3--liquid phase; curves 2 and 3--plastic state.

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L 11060-66
ACC NR: AT5023439

alcohol upon concentration see fig. 3. For anthranilic acid CCl_4 system, the rate

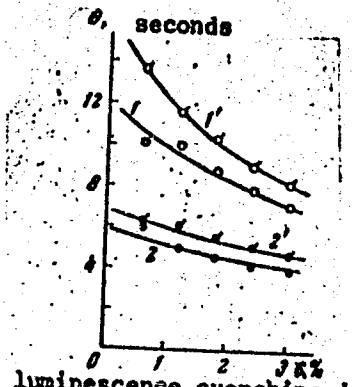

Fig. 3. 1 and 1'--optical excitation; 2 and 2'--excitation with x-rays, 1 and 2--oxygen saturated solutions; 1' and 2'--O_2-free solutions.

constant of luminescence quenching is $4.7 \cdot 10^9$ l/mol·sec and the rate constant of photoluminescence quenching is $2.4 \cdot 10^9$ l/mol·sec. Orig. art. has: 3 figures, 1 table, 3 formulas.

SUB CODE: 20/ SUBM DATE: 23Feb65/ ORIG REF: 007/ OTH REF: 003

Card 3/3

86732

21.5200 (2916, 1033, 1144)

S/120/60/000/006/006/045
E032/E314

AUTHORS: Viktorov, D.V., Kilin, S.F. and Rozman, I.M.

TITLE: On the Linearity of a Counter with a Plastic Scintillator

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No. 6, pp. 27 - 30

TEXT: A study is reported of the dependence of the amplitude of the scintillations on the electron and α-particle energies in polystyrene and polyvinyl toluene-based plastic scintillators. These plastics are designated ПС-1 (PS-1) and ПС-2 (PS-2). Preliminary results by Boreli and Grimeland (Ref. 3) indicated that these scintillators give a linear output for electron energies between 0.4 and 1 MeV. The present authors have investigated the response of these plastics to electrons with energies between 20 and 800 keV. A Compton spectrometer (Fig. 1) was used to determine the energies. γ-rays were allowed to fall on the plastic under investigation. Coincidences were recorded between pulses produced in the plastic and the pulses due to Compton scattered γ-rays produced in a second scintillation counter, using

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S/120/60/000/006/006/045
E032/E314

On the Linearity of a Counter with a Plastic Scintillator

sodium-iodide crystals. The plastic scintillators were 28 mm in diameter and 25 mm long. They were in good optical contact with an ФЭУ-20 (FEU-20) photomultiplier and were provided with a MgO reflector. In order to reduce background random coincidences the γ-ray source was carefully screened with lead. The resolving time of the coincidence circuit was 5×10^{-7} sec and provision was made for discrimination against pulses in the counting channel of the sodium-iodide crystals. Fig. 2 shows spectra obtained with the PS-2 plastic. The curve on the left corresponds to γ-rays of 80 keV and a Compton angle of 155 deg. The curve on the right corresponds to γ-rays of 662 keV at a Compton angle of 117 deg. Fig. 3 shows that the mean amplitude of pulses from the PS-2 plastic is strictly proportional to the energy of the incident electrons in the range 10 - 1 000 keV. Fig. 4 shows a similar plot for the PS-1 plastic and again the amplitude-energy relation is linear. In the latter case the range covered is 400 to ~ 800 keV. A study was also

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S/120/60/000/006/006/045
E032/E314

On the Linearity of a Counter with a Plastic Scintillator

made of α-particles with energies between 0.6 and 4.8 MeV. Using a single-channel pulse-height analyser, a plot was made of the mean amplitude of the scintillations vs. the energy of the α-particles. Here, the amplitude-energy relation is no longer linear. The results obtained are shown in Fig. 5, in which Curve 1 refers to the PS-2 plastic and Curve 2 gives the residual range of α-particles as a function of energy. It was found that the amplitude-energy relation is the same for both PS-1 and PS-2. The average amplitude of the scintillations was found to be a linear function of the residual range for energies between ~ 1 and 3 MeV.

There are 5 figures, 1 table and 8 references: 4 English, 2 Italian and 2 Soviet; one of the Soviet references is translated from English.

SUBMITTED: October 31, 1959

Card 3/3

KILIN, V. (Izhevsk)

The DPU-3 dispatcher panel. Pozh.delo 4 no.12:20 D '58.
(MIRA 11:12)

(Remote control)

KILINA, K.M.

Methodological consultation bureau. Zdrav. Bel. 6 no.12:68 D '60.
(MIRA 14:1)

1. Sekretar' Konsul'tativno-metodicheskogo byuro pri Belorusskom instituta usovershenstovvaniya vrachey.
(MEDICINE)

TUR, M.M.; KILINA, K.M.

For further improvement in medical care for children. Zdrav. Bel. 7 no. 2:3-5 F '61. (MIRA 14:2)
(WHITE RUSSIAN--CHILDREN--MEDICAL CARE)

KILINA, N.G.; MAGIBIN, F.F. (Kirov)

Some methodological problems in elementary algebra. Mat. v shkole no.4:73-76 Jl-Ag '63. (MIRA 16:9)
(Algebra—Study and teaching)

SHUBINA, S.B.; SHAYEVICH, A.B.; KILINA, S.I.; MEL'NIKOV, S.I.; BAZANOVA, L.A.

Rapid determination of oxygen in metals by spectral analysis.
Zav.lab. 28 no.8:942-943 '62. (MIRA 15:11)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov.
(Metals--Oxygen content) (Spectrum analysis)

L 12019-65 AFETR

ACCESSION NR: AP4047500 S/0075/64/019/010/1267/1269

AUTHOR: Soldatova, L. A.; Kilina, Z. G.; Katayev, G. A.

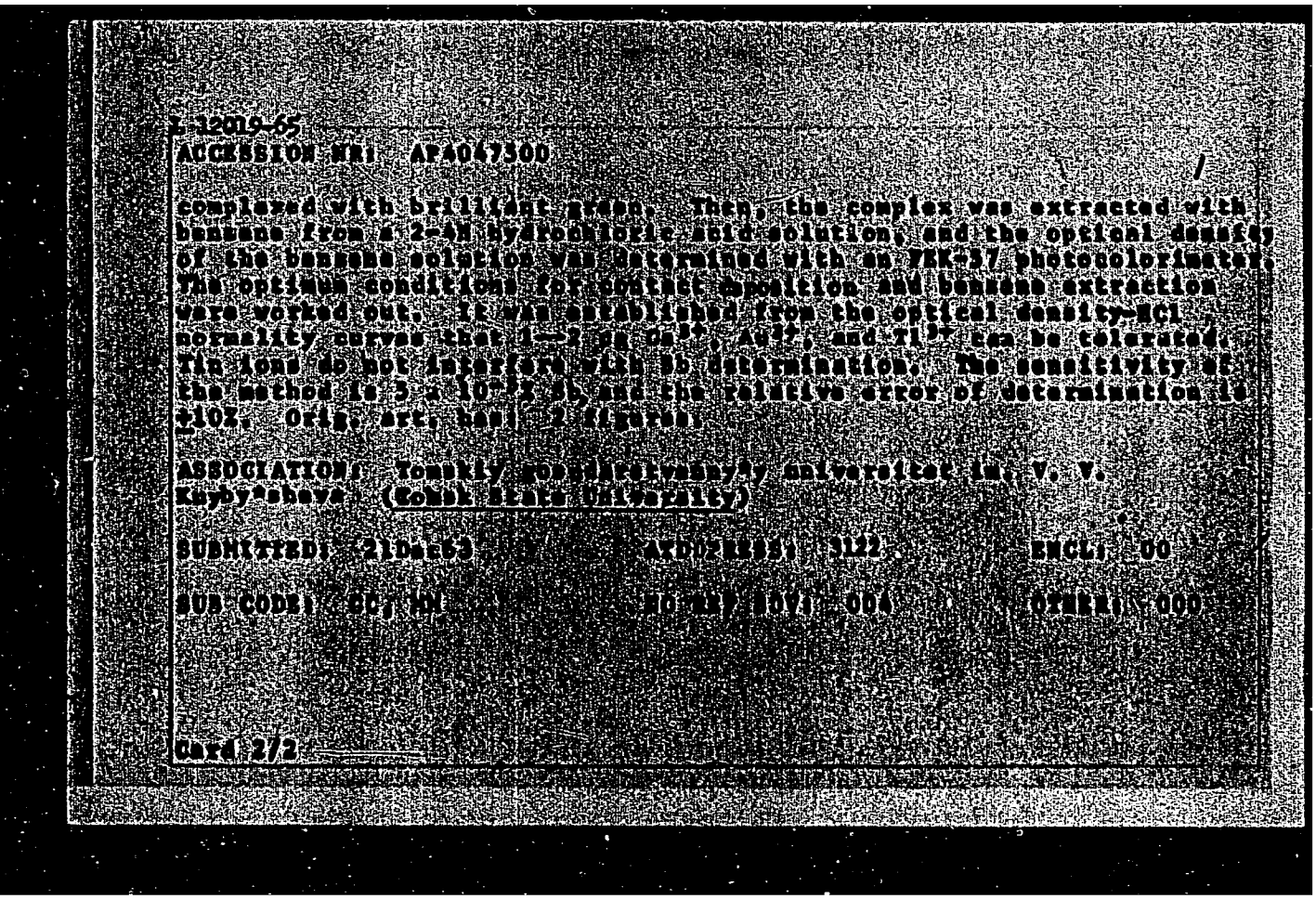
TITLE: Separation of antimony by contact deposition and its photometric determination with brilliant green

SOURCE: Zhurnal analiticheskoy khimii, v. 19, no. 10, 1964, 1267-1269

TOPIC TAGS: antimony photometric determination; antimony separation, trace analysis, indium alloy, indium gallium alloy, alloy chemical analysis, trace impurity determination, antimony contact deposition

ABSTRACT: A solvent extraction-photometric method of determination of microgram quantities of antimony in indium-zinc and indium-gallium alloys has been developed. The method requires a preliminary separation of Sb from indium, zinc, gallium, gold, and thallium, which was achieved by contact deposition of Sb from a hydrochloric solution onto high-purity tin. The antimony deposit was dissolved in H_2SO_4 + HNO_3, and the antimony in the solution, after a chemical treatment, was

Card 1/2



L 12019-65
ACCESSION NR: AP4047300

complexed with brilliant green. Then, the complex was extracted with benzene from a 2-N hydrochloric acid solution, and the optical density of the benzene solution was determined with an FEK-57 photocolorimeter. The optimum conditions for extract composition and benzene extraction were worked out. It was established from the optical density-HCl normality curves that 1-3 μg Ca++, Ag++, and Tl+ can be tolerated; Tin ions do not interfere with Sb determination. The sensitivity of the method is 5 x 10-7 g Sb, and the relative error of determination is ±10%. Orig. art. has: 2 figures.

ASSOCIATION: Tomskiy meditsinskiy gosudarstvennyy universitet im. V. V. Kuybyshev (Tomsk State University)

SUBMITTED: 21Dec63 ENCL: 00

SUB CODE: GC, IE NO REF SOV: 004 OTHER: 000

Card 2/2

ACC NR: AT6033692 SOURCE CODE: UR/3231/66/000/002/0071/0082

AUTHOR: Kilimchuk, L. M.; Yanovskaya, T. B.

ORG: none

TITLE: An investigation of the amplitude ratio between PP and P waves

SOURCE: AN SSSR. Institut fiziki Zemli. Vychislitel'naya seysmologiya, no. 2, 1966. Mashinnaya interpretatsiya seysmicheskikh voln (Machine interpretation of seismic waves), 71-82

TOPIC TAGS: seismic wave, earthquake, computer application, seismic model, seismologic station

ABSTRACT: The dynamic characteristics of seismic waves may be utilized for a detailed investigation of the Earth's structure. Usually these characteristics are represented by amplitude curves: the relation of wave intensity to epicentral distance. The accuracy of this representation may be enhanced by considering the epicentral-distance dependence of not just some individual wave but of the ratio between the amplitudes of different waves. Thus, the problem of utilizing the amplitude ratio $A_{PP}(\Delta)/A_P(\Delta)$ between PP and P waves to determine

Card 1/2

ACC NR: AT6033692

the structure of a medium, e.g. Earth, can be correctly posed only if it is known what characteristics (e.g. the wave period, the conditions at the surface at the point of reflection of the PP wave, etc.) of the medium affect this ratio, and to what extent. The article analyzes theoretical calculations of the $A_{PP}(\Delta)/A_P(\Delta)$ ratio for various structural models of the Earth's crust proposed by Jeffreys (The Earth, Its Origin, History and Structure [Russian translation], IL, 1960) and Gutenberg (Bull. Seism. Soc. Am., 43, 223-232, 1953). The amplitude curves $A_{PP}(\Delta)$ and $A_P(\Delta)$ were computed by means of the program described by T. B. Yanovskaya (In coll.: Voprosy kolichestvennogo izucheniya dinamiki seysmicheskikh voln, vyp. VIII, Izd-vo LGU, 1966). The computed curves were compared with observational data on 40 earthquakes recorded at the Alma-Ata Seismic Station ($\varphi = 43°16'$, $\lambda = 76°57'$). Findings: The $A_{PP}(\Delta)/A_P(\Delta)$ ratio is markedly affected by the crustal structure in the region of reflection of the PP wave, but apparently not to a sufficient extent to account for the fact that the scatter of observational findings is twice as broad as the scatter of computed findings. A comparison of the calculations for the Jeffreys and Gutenberg models with the observational findings points to the existence in the upper mantle of a zone with a higher velocity gradient than that assumed in the above models. Absorption for volume waves is much smaller than for surface waves, and hence the findings on the absorption of surfaces waves cannot be extended to the case of volume waves. Orig. art. has: 6 figures, 3 tables.

SUB CODE: 08, [redacted] 09/ SUBM DATE: none / ORIG REF 004/ OTHE REF: 012

Card 2/2

KILINOWSKI, K.

Poland/Analytical Chemistry - Analysis of Organic Substances G-3

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 8588

Author : Kilinowski, K.
Inst : Not given
Title : The Coulometric Microtitration of L-Ascorbic Acid

Orig Pub : Roczn. chem., 1956, Vol 30, No 1, 269-274 (in Polish with a summary in English)

Abstract : A microdetermination of l-ascorbic acid (I) by the titration of iodine produced electrolytically from a KI solution in an iodine voltmeter is described. A current strength of 5 mamps and a current density of 4 mamps/cm^2 at the anode are used. The excess iodine in the measuring vessel is determined from the deviation of the needle of the microammeter in the indicator circuit. Comparison determinations of the excess iodine by backtitration with $Na_2S_2O_3$ have been made, using a system of polarised electrodes to determine the end-point. The error is $\leq 0.3\%$ when the amount of I which is determined is ≥ 1 mg. Prior to the determinations, the solutions of I to be analysed are dissolved in 5% NaCl and 0.1 N HCl. A diagram of the apparatus and a detailed description are included in the paper.

Card 1/1

-48-

KILINSKI A.

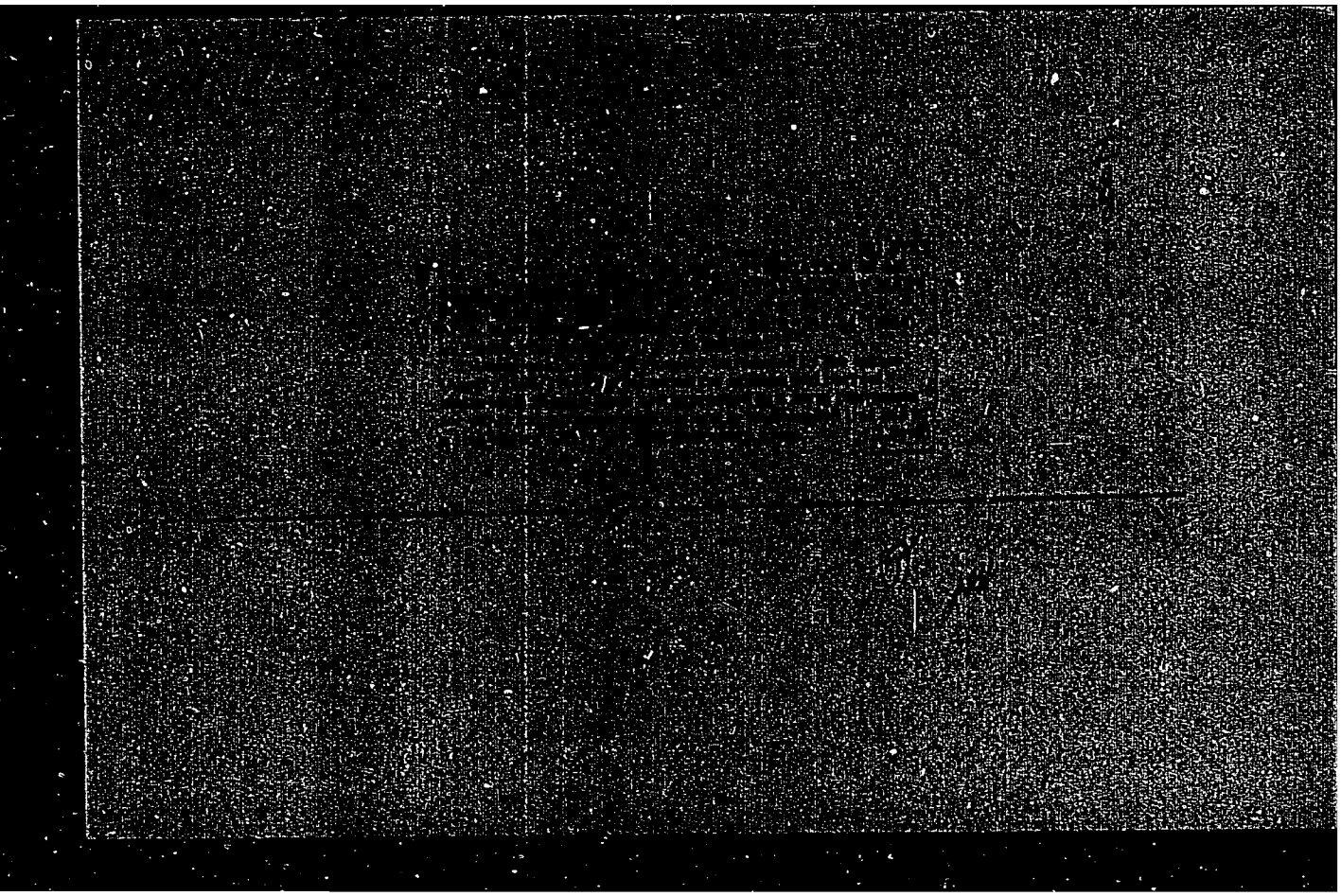
POLAND

621.315.09 : 621.3.011.21

The exact value of input admittance in a line having uniformity of a points. A. Kilinski. *Arch. elektrotech.* (Warsaw) 3, No. 1, 109-24 (1954) In Polish.

The general formula for the input admittance of such a line is written as the product of the wave admittance and the ratio of two coefficients (depending on line parameters). The explicit expressions for these coefficients are derived by iteration. The method is suitable for practical applications and final formulae might lend themselves to graphical representation. Three particular cases are discussed.

B. SYSKI



KILINSKI, A.

4

5600 621.38.002.001.6

Kilinski A. The Reliability Program Concerning Electronic Equipment. „Zagadnienia niezawodności sprzętu elektronowego". (Prace Przem. Inst. Telekom. No. 22), Warszawa, 1957, PWT, 22 pp., 29 figs., 6 tabs.

A survey of the main reasons for the special interests shown during recent years in the reliability problem as concerning electronic equipment, together with definition of the most important criteria of reliability (probability, failure rate, mean time between failures, etc.). All criteria based on the probability of a reliable operation, and some elementary definitions — methodically necessary — from the calculus of probability are given (probability of countable events, continuous probability, probability percentage, defined failure probability, distribution characteristics). Next to be considered are two fundamental methods — and their application — of calculating results reliability (the method of product and the method of distribution). Mention is made of the theoretical possibilities of increasing the reliability by the independent interchangeable element method and the Neumann method, and the reliability cases with exponential Gauss defined failure probability are treated in greater detail. Finally the influence on reliability of the method of exchanging elements is traced, and data are given concerning reliability levels of the elements and apparatuses.

P/022/60/000/010/002/012
A222/A126

13.2900

AUTHOR: Kiliński, Antoni

TITLE: On the reliability of electronic equipment

PERIODICAL: Przegląd telekomunikacyjny, no. 10, 1960, 295-97

B

TEXT: The paramount importance of the reliability of electronic equipment is illustrated by US experience, especially in the maintenance of Air Force electronic equipment. Pertinent research in the USSR has been enforced since 1958, due to the issues by Nauchno-Tekhnicheskoye Obshchestwo Radiotekhniki (Scientific and Technical Association of Radio Engineering) setting up a proper reliability research program. Relevant Polish advances started in 1956 with theoretical work at the Politechnika Warszawska and later on at the Przemysłowy Instytut Telekomunikacji (Industrial Institute of Telecommunication). Essential theoretical and experimental work has been initiated in 1958 at the Ośrodek Badawczy Sprzętu Łączności (Research Center of Communications Equipment) in Zegrze. Economical aspects of reliability are discussed in the rest of the paper.

Card 1/2

On the reliability of electronic equipment

P/022/60/000/010/002/012
A222/A126

ASSOCIATION: Katedra Konstrukcji Telekomunikacyjnych i Radiofonii Politechniki Warszawskiej
(Department of Telecommunication Designs and Broadcasting, Warsaw Polytechnic)

B

Card 2/2

KILINSKI, Antoni, prof.

Relaibility problems of electronic equipment; present state and tasks for the future. Przegl elektroniki 4 no. 10/11:552-553 O-N '63.

Dispersion planes of some monotonic functions. Ibid.: 562-563.

1. Katedra Budowy Maszyn Matematycznych, Politechnika, Warszawa.

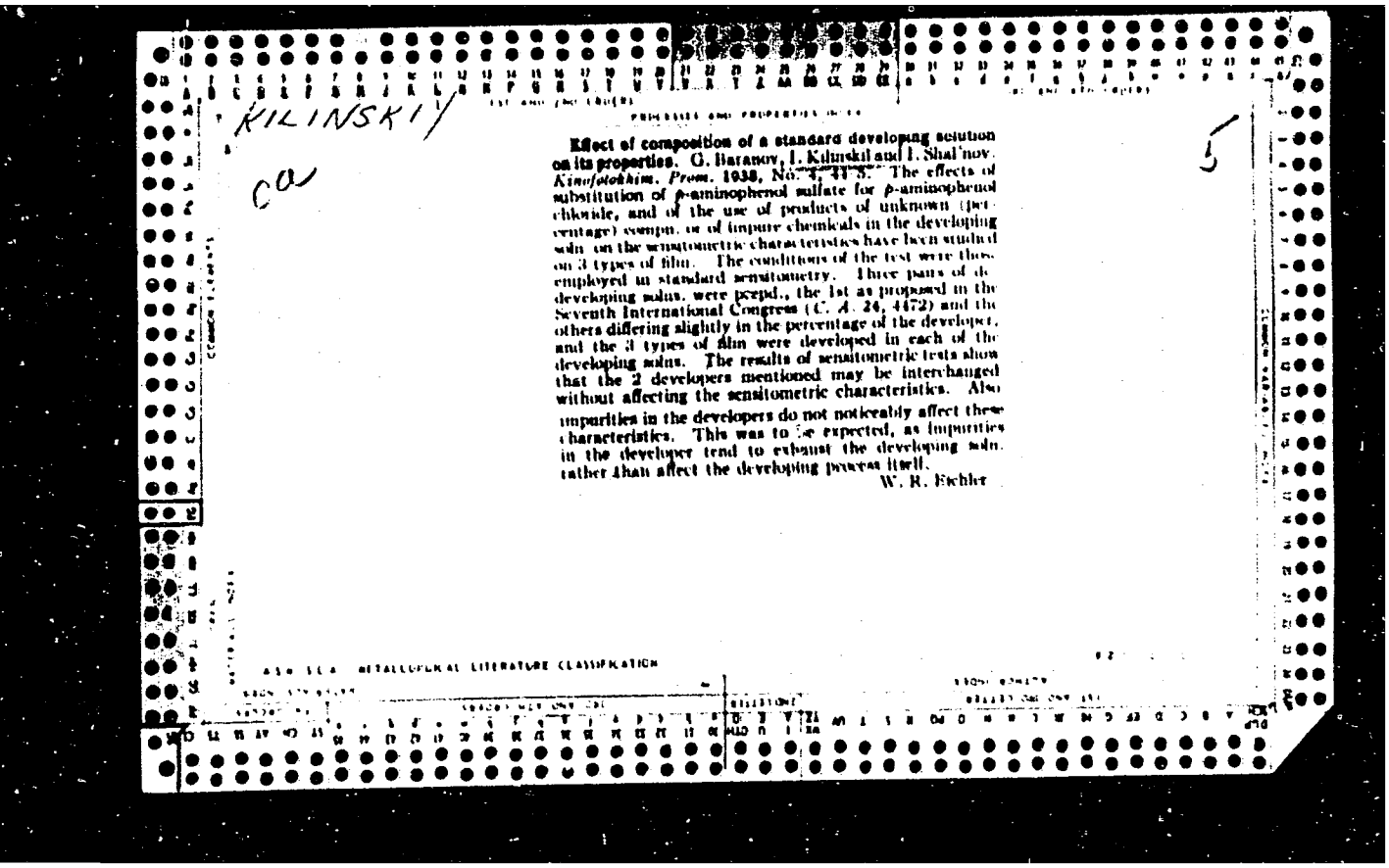
Kilinski, S.

Kilinski S. Exact Value of Input Admittance in a Line Uniformly Loaded at n Points.

"Wartość ścisła wejściowej przewodności linii obciążonej równomiernie w n punktach". Archiwum Elektrotechniki (PAN). No. 1, 1954, pp. 109—134. 1 fig.

MN

Approximate methods hitherto in existence for calculating radio diffusion lines have in numerous cases proved too inaccurate in practice. The conventional exact method of calculation which consists in the production, for calculating a line loaded at n points, n-1 iterations, cannot, being too involved, be generally relied upon in practice. The rule of iteration has, with a view to making possible the practical application of the exact method of calculating input admittance in certain typical broadcasting instances, been more closely investigated, and it has been found that there exist the means for direct determination of the result of n-1 iterations for a line uniformly loaded at n points. The theoretically exact formulae developed considerably facilitate determination of the limits within which the approximate formulae can be used, though the more involved exact formulae would have to be used outside these limits. However, the expression of the exact formulae in the form of universal curves is likely radically to simplify technical calculations and make it possible to carry out such computations within practically justified limits of accuracy.



KILINSKII

C01

5

Effect of composition of a standard developing solution on its properties. G. Baranov, I. Kilinskii and I. Shal'nov. *Kinofotokhim. Prom.* 1938, No. 4, 41-5. The effects of substitution of *p*-aminophenol sulfate for *p*-aminophenol chloride, and of the use of products of unknown (percentage) composition of impure chemicals in the developing soln. on the sensitometric characteristics have been studied on 3 types of film. The conditions of the test were those employed in standard sensitometry. Three pairs of developing solns. were prepd., the 1st as proposed in the Seventh International Congress (*C. A.* 26, 4472) and the others differing slightly in the percentage of the developer, and the 3 types of film were developed in each of the developing solns. The results of sensitometric tests show that the 2 developers mentioned may be interchanged without affecting the sensitometric characteristics. Also impurities in the developers do not noticeably affect these characteristics. This was to be expected, as impurities in the developer tend to exhaust the developing soln. rather than affect the developing power itself.

W. R. Eichler

KILINSKIY, I. M.

Kilinskiy, I.M. "Effect of a series of factors during synthesis of a photosensitive imlusion on its solvent capacity," report 64, Trudy NIKFI (Nauch.-issled. kino-foto-in-t), Issue 7, 1947 (column title: 1944), p. 69-74 - Bibliog: 20 items

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949

KILINSKIY, I.M.

The growth of silver halide grains in the process of physical ripening. Trudy NIKFI no.7:59-68 '47. (MIRA 11:6)

1. Laboratoriya tekhnologii fotosloyev Nauchno-issledovatel'skogo kino-foto-instituta, Moskva.
(Photographic emulsions)

KILINSKIY, I.M.

Influence of a series of factors on the resolving power of a photosensitive emulsion in connection with its synthesis. Trudy NIKFI no.7:69-74 '47. (MIRA 11:6)

1. Laboratoriya tekhnologii fotosloyev Nauchno-issledovatel'skogo kino-foto-instituta, Moskva.
(Photographic emulsions)

KILINSKIY I.M.

USSR/Chemical Technology. Chemical Products and Their Application -- Photographic materials, I-19

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5976

Author: Kilinskiy, I. M., Moshkovskiy, Yu. Sh.

Institution: None

Title: Change in Balance of Multilayer Positive Color Motion Picture Film on Decrease in Dimensions of Exposure Field

Original Publication: Zh. nauch. i prikl. fotografii i kinematogr., 1956, 1, No 1, 39-41

Abstract: It is shown that as the dimensions of the exposure field of a color film are reduced there takes place an appreciable change in the balance of the layers, as concerns contrast (B_c) and light sensitivity (B_s). Change in B_c takes place due to decrease in γ of the superposed layers, which is attributed to a dependence of light scattering on wave length of light, which is not the same in the case of layers having emulsion crystals of different size. A general lowering of optical density is noted in all layers of a color film on decrease of the exposure field.

Card 1/1

CLASSIFIED

KILINSKIY

Category : USSR/Optics - Scientific photography K-11

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 2697

Author : Kilinskiy, I.M., Moshkovskiy, Yu.Sh.
Inst : Sci. Res. Inst. for Motion-Picture Photography, USSR
Title : Change in Balance of a Colored Multilayer Positive Motion Picture Film upon Reduction of the Size of the Exposed Field

Orig Pub : Zh. nauch. i prikl. fotografii i kinematogr., 1956, 1, No 1, 39-41

Abstract : Lines 84, 40, and 32 micron wide and a circle 3 mm in diameter were photographed with a color multilayer positive motion-picture film at various exposure. After color development, the optical densities of the images of the lines and of the circle were measured with a microphotometer through red, gree and blue filters, and the corresponding characteristic curves were plotted. The narrower the line, the smaller was the contrast observed in the green-sensitive and blue-sensitive layers, while the contrast of the red-sensitivelayer remained constant, i.e., the balance of the colored multilayer photographic material, both with respect to contrast and to light sensitivity, depends on the size of the exposed field. The effect observed is attributed to the scattering of light in the emulsion layer.

Card : 1/1

KILINSKIY, I.M.; VILENSKIY, Yu.B.; GRECHKO, M.K.

Relation between the total resolving power and the resolving power of the individual layers in multilayer color film. Zhur.nauch.i prikl.fot.i kin. 1 no.5:359-361 S-O '56. (MLRA 9:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy kino-fotoinstitut i fabrika kinoplenki no.3:359-361 S-O '56. (MLRA 9:11)
(Color photography)

KILINSKIY, I.M.; VILENSKIY, Yu.B.; BONGARD, S.A.

The structure of color motion-picture films and the clarity of the photographic image. Zhur. nauch. i prikl. fot. i kin. 2 no.3:198-201 My-Je '57. (MLRA 10:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy kino-fotoinstitut i fabrika No.3 GUPP.

(Color cinematography)

KILINSKIY, I.

Controlling the formation of fog in bleaching. Sov. foto 17 no.9: 49-50 S '57. (MLRA 10:9)
(Color photography)

KILINSKIY, I.M.; IORDANSKIY, A.N.

Effect of silver halide concentration of the emulsion layer on its resolving capacity dependent on the nature of the developing agent. Zhur.nauch.i prikl.fot. i kin. 5 no.2:108-113 Mr-Ap '60. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI).
(Photography—Developing and developers)

S/081/61/000/022/057/076
B101/B147

AUTHORS: Kilinskiy, I. M., Iordanskiy, A. N.

TITLE: Influence of the yellow color filter layer on the resolving power and effective color sensitivity of color film layers

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 381, abstract 22L338 (Tr. Vses. n.-i. kinofotoin-ta, no. 29, 1959, 59-61)

TEXT: The yellow filter layer containing colloidal Ag hardly reduces the resolving power of the green- and red sensitive layers of the color film, but slightly reduces its effective sensitivity to light. It is advisable to replace the layer with the colloidal Ag by a light filter having a higher transmissivity for green and red light. [Abstracter's note: Complete translation.]

Card 1/1

S/081/61/000/022/052/076
B101/B147

AUTHOR: Kilinskiy, I. M.

TITLE: "Characteristic area" and light sensitivity of photographic emulsions

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 380, abstract 22L333 (Tr. Vses. n.-i. kinofotoin-ta, no. 29, 1959, 62 - 72)

TEXT: An example is given for the classification of photographic emulsions on the basis of the dimensions and the shape of the "characteristic area". This area is defined as a quantity being equal or proportional to the sum of the products of the amounts of the soluble alkali halides and the periods within which each amount of excess alkali halide takes part in the physical digestion of the emulsion. [Abstracter's note: Complete translation.]

Card 1/1

S/058/63/000/003/046/104
A062/A101

AUTHORS: Kilinskiy, I. M., Vilenskiy, Yu. B., Iordanskiy, A. N.

TITLE: On the improvement of light-sensitivity, resolving power and quality of color reproduction in color negative motion-picture films

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1963, 87, abstract 3D587 ("Uspekhi nauchn. fotogr.", 1962, v. 8, 3 - 12)

TEXT: The article describes new color films, produced by NIKFI and the Shostkin chemical plant. The increase of light sensitivity has been attained owing to a rational choice of the form of change in the quantity of excessive bromide in the ripening process of the emulsion. The results of work on sensitization of color photography materials, filter layer structure etc. are described. It is shown that an increase of sharpness in color images can be attained by a reduction of light scattering in the elementary layers, and an improvement of the color reproduction - by introducing into these layers masking components. Pecularities of the treatment of films with internal masking are described.

D. Balabukha

[Abstracter's note: Complete translation]

Card 1/1

KILINSKIY, I.M.; ANDREYANOV, V.V.

Effect of the size of silver halide microcrystals on the resolving power of the emulsion as dependent on the nature of the developing agent. Zhur.nauch. i prikl.fot. i kin. 8 no.5:379-380 S-O '63. (MIRA 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI).

KILINSKIY, I.M.; VILENSKIY, Yu.B.; IORDANSKIY, A.N.

Increasing the sensitivity and resolving power and improving the quality of color reproduction of negative color motion-picture films. Usp. nauch. fot. 8:3-12 '62. (MIRA 17:7)

USSR / Pharmacology, Toxicology. Anti-Inflammatory Drugs. V

Abs Jour: Ref Zhur-Biol., No 9, 1958, 42437.

Author : Kreyndlin, Yu. Z.; Kilinskiy, Ye. L.
Inst : Not Given.
Title : The Use of Butadione in Thrombophlebitis of the Lower Extremities and of the Hemorrhoidal Veins.

Orig Pub: Klinich. Meditsina, 1957, 35, No 11, 125-127.

Abstract: Twenty five patients (21 women, 4 men) aged 40-79 years with thrombophlebitis of the superficial veins of the lower extremities and hemorrhoidal veins were treated with butadione, in doses of 0.15 g, four times daily, during the first three days, - three times daily thereafter. The course of treatment consisted in 2.4-3.6 gm, in traumatic thrombophlebitis - 6 gm. Side effects, (nausea

Card 1/2

KILINSKIY, Ye.L.; KECHKER, M.I.; ZHUHK, Ye.A.

Diagnosis of myocardial infarct in left bundle branch block. Terap. arkh. 31 no.2: 77-83 F '59. (MIRA 12:1)

1. Iz 1-y kafedry terapii (zav. - deystvitel'nyy chlen AMN SSSR prof. M.S. Vovsi) TSentral'nogo instituta usovershenstvovaniya vrachey.
(MYOCARDIAL INFARCT, compl.
bundle branch block, diag. (Rus))
(HEART BLOCK, compl.
bundle branch block in myocardial infarct, diag. (Rus))

KILINSKIY, Ye.L.

Diagnostic significance of the ventricular gradient. Terap. arkh. 31 no.7:61-69 Jl '59. (MIRA 12:11)

1. Iz 1-y kafedry terapii (zav. - deystvitel'nyy chlen AMN SSSR prof.M.S.Vovsi) TSentral'nogo instituta usovershenstvovaniya vrachey, Moskva.
(ELECTROCARDIOGRAPHY)

KILINSKIY, Ye.L.; KREYNDLIN, Yu.Z.

Superficial cord-like phlebitis. Khirurgiia 35 no.4:107-110 Ap '59. (MIRA 12:8)

1. Iz poliklinicheskogo otdeleniya (zav. khirurgicheskogo otdeleniyem M.V.Dement'yeva) 15-y gorodskoy bol'nitsy (glavnyy varch M.D.Vashchenko, nauchnyy konsul'tant - prof. V.A.Ivanov), Moskva.
(THROMBOPHLEBITIS, case reports
Mondor's dis. (Rus))

ZHUK, Ye.A.; KILINSKIY, Ye.L. (Moskva)

Use of the sugar test for the evaluation of coronary circulation. Klin.med. 38 no.8:87-93 Ag '60. (MIRA 13:11)

1. Iz 1-y kafedry terapii (zav. - deystvitel'nyy chlen AMN SSSR prof M.S. Vovch [deceased]) TSentral'nogo instituta usovershenstvovaniya vrachey.
(CORONARY HEART DISEASE) (GLUCOSE)

KILINSKIY, Ye.L.

"Paradoxical" changes in the electrocardiogram during physical load tests. Sov. med. 25 no.7:49-53 Jl '61. (MIRA 15:1)

1. Iz 1-y kafedry terapii (zav. - deystvitel'nyy chlen AMN SSSR prof. M.S.Vovsi [deceased]) TSentral'nogo instituta usovershenstvovaniya vrachey na baze klinicheskoy ordena Lenina bol'nitsy imeni S.P.Botkina (glavnyy vrach - prof. A.N.Shabanov).
(STRESS (PHYSIOLOGY)) (ELECTROCARDIOGRAPHY)

KILINSKIY, Ye.L.; EGART, F.M. (Moskva)

Study of coronary blood circulation in diabetes mellitus (ECG dynamics over a 24-hour period). Terap. arkh. 35 no.5: 46-50 My'63 (MIRA 16:12)

1. Iz otdeleniya funktsional'noy diagnostiki (zav. - kand. med. nauk A.K.Dobrzhanskaya) Vsesoyuznogo nauchno-issledovatel'skogo instituta eksperimental'noy endokrinologii (dir. - prof. Ye.A. Vasyukova).